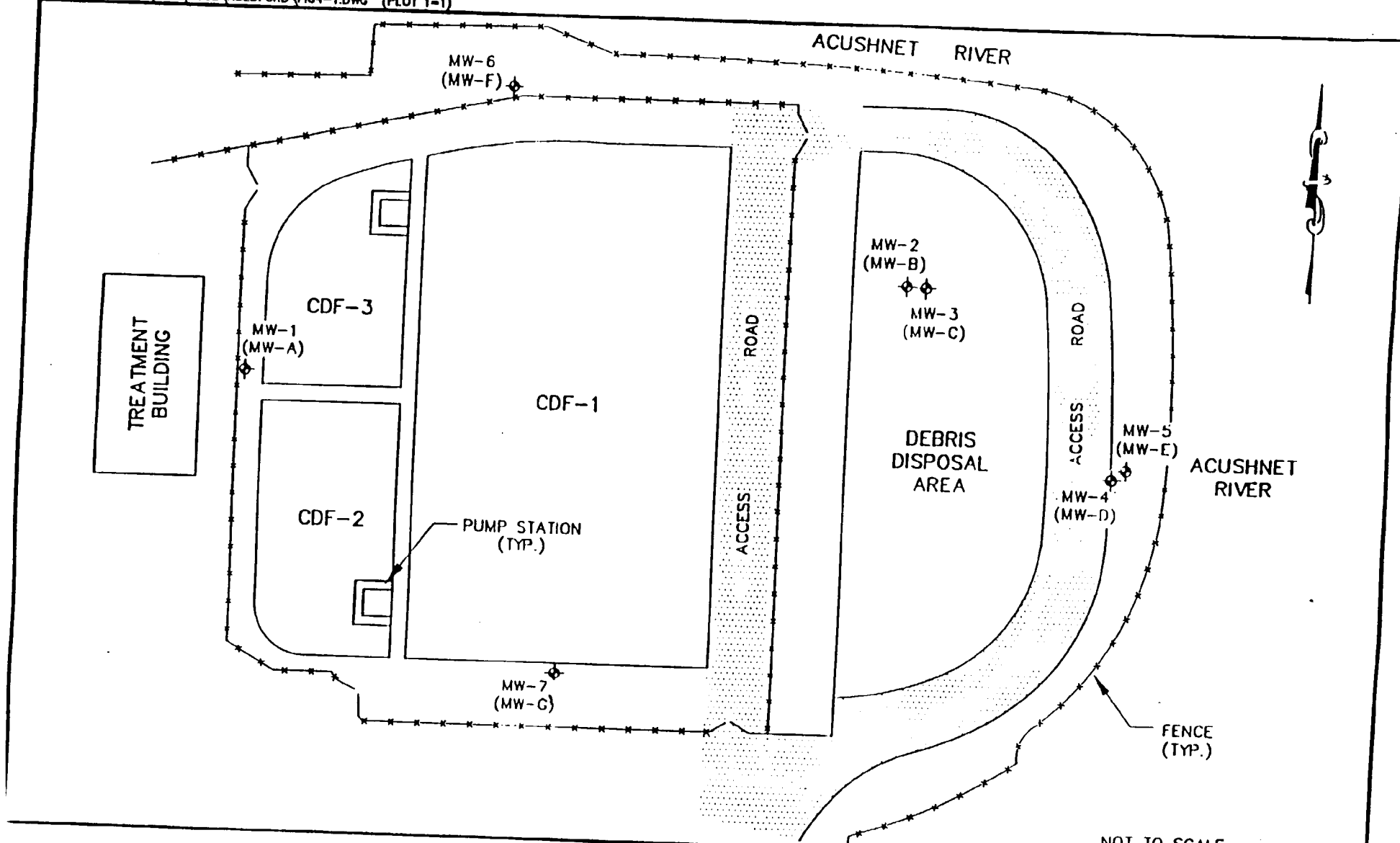


**New Bedford Harbor Sawyer Street
Quarterly Groundwater Sampling
Analytical Results**

December 1995

FILE NAME: P:\DWG\ACOE\NBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN
 NEW BEDFORD HARBOR SUPERFUND SITE
 NEW BEDFORD, MASSACHUSETTS



DRAWN	DATE	DES. ENG.	DATE	W. O. NO.
K.J.C.	MAY 96			03886-118-002
CHECKED				

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling
Analytical Results**

Well	Sample Date	PCBs (T) (ppb)	PCBs (D) (ppb)	Cadmium (T) (ppm)	Cadmium (D) (ppm)	Chromium (T) (ppm)	Chromium (D) (ppm)	Copper (T) (ppm)	Copper (D) (ppm)	Lead (T) (ppm)	Lead (D) (ppm)
MW-1	3/11/92	0.082	<0.053	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	0.016	<0.0050
	12/12/95	ND ⁴	ND ⁴	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0047	<0.0017
MW-2	3/11/92	0.41	<0.051	<0.0091	<0.0091	0.018 J	<0.012	0.048	<0.025	0.013	<0.0050
	12/12/95	ND ⁴	ND ⁴	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0022 J	<0.0085
MW-3	3/11/92	1.0	<0.051	<0.0091	<0.0091	0.043	<0.012	0.084	<0.025	0.028	<0.0050
	12/12/95	ND ⁴	ND ⁴	0.027 ⁵	0.025 ⁵	<0.0073	<0.0073	0.257	0.108	0.0038	<0.0017
MW-5	3/11/92	<0.056	<0.056	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	<0.0050	<0.0050
	12/12/95	ND ⁴	ND ⁴	<0.0026	<0.0026	<0.0073	<0.0073	0.0077 J	<0.0042	<0.017 ⁶	<0.0085
MW-6	3/11/92	<0.052	<0.052	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	0.022	<0.0050
	12/12/95	ND ⁴	ND ⁴	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.003	<0.0017
	12/12/95 ¹	ND ⁴	ND ⁴	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0028 J	<0.0017
MW-8 ²											
MW-9 ³	3/11/92	<0.052	<0.052	<0.0091	<0.0091	0.015 J	<0.012	0.027 J	<0.025	0.0085	<0.0050

T = Total

D = Dissolved

ND = Not Detected

¹ Duplicate sample

* ² MW-8 will be installed in 1996 to replace damaged well MW-4. MW-4 was not sampled in March 1992.

* ³ MW-9 will be installed in 1996 to replace damaged well MW-7. March 1992 data is from MW-7.

⁴ PCBs were not detected in the sample. The detection limits were:

PCB-1016 - 0.090 ppb

PCB-1221 - 0.17 ppb

PCB-1232 - 0.098 ppb

PCB-1242 - 0.049 ppb

PCB-1248 - 0.068 ppb

PCB-1254 - 0.062 ppb

PCB-1260 - 0.073 ppb

⁵ Concentration exceeds cadmium MCL of 0.005 ppm.

⁶ The detection limit for lead in this sample was elevated due to the nature of the sample matrix.

* Note: Replacement wells will have IDs 4A and 7A, not 8 & 9.

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling
Field Measurements**

Well	Sample Date	Depth to Water (ft) ¹	pH (units)	Temperature (°C)	Specific Cond. (umhos/cm)
MW-1	12/12/95	6.5	6.87	14	1.2
MW-2	12/12/95	8.5	7.25	12.2	5.31
MW-3	12/12/95	6	7.35	9.3	1.42
MW-5	12/12/95	4	7.81	13.1	2.07
MW-6	12/12/95	12	7.33	12.6	0.685
MW-8 ²					
MW-9 ³					

¹ Measured from top of well casing

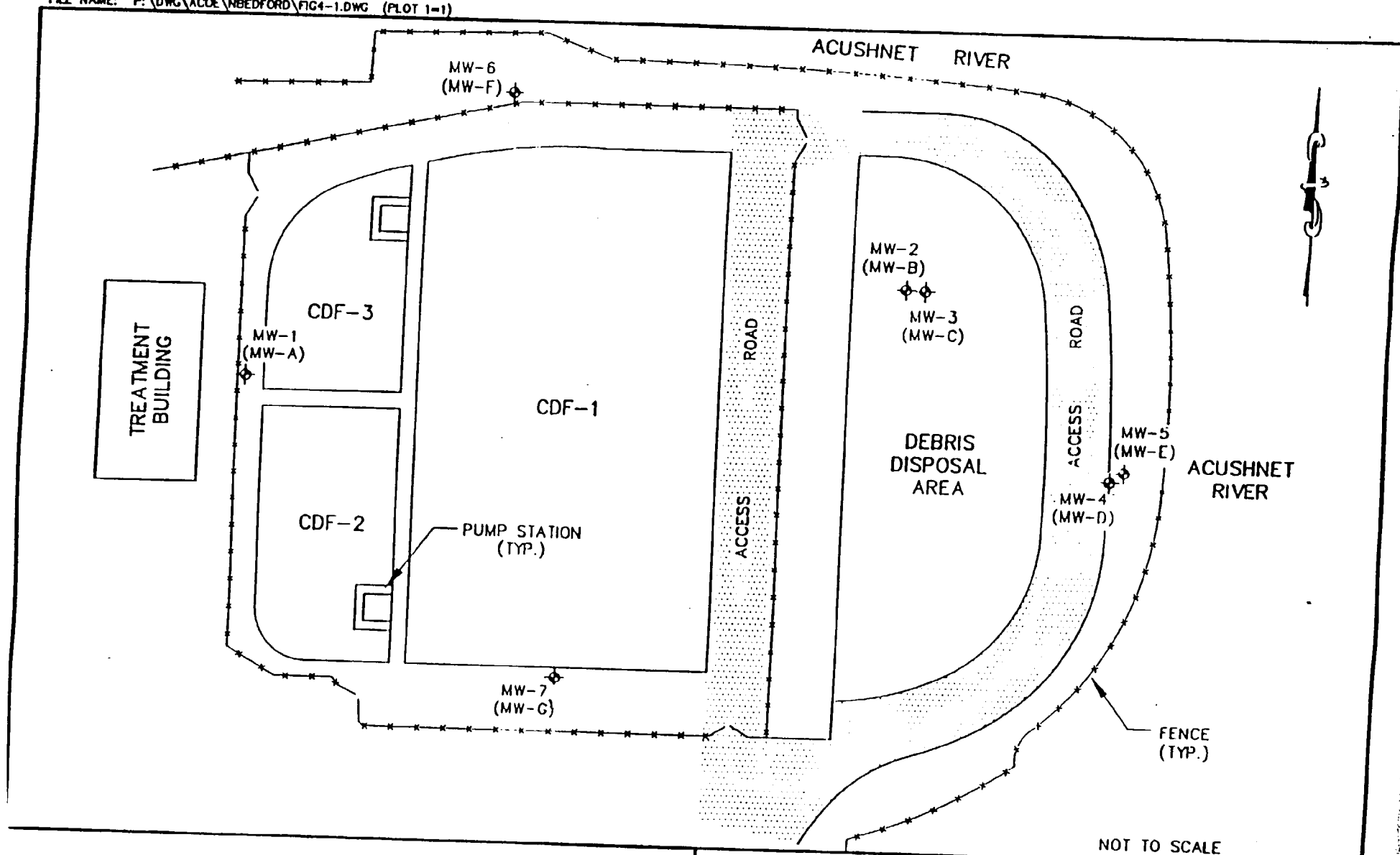
² MW-8 will be installed in 1996 to replace damaged well MW-4.

³ MW-9 will be installed in 1996 to replace damaged well MW-7.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

March 1996

FILE NAME: P:\DWG\ACOE\NBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

ROY F. WESTON, INC.



DRAWN	DATE	DES. ENG.	DATE	W. O. NO.
K.J.C.	MAY 96			03886-118-002
CHECKED				

Table 1

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 28 March 1996
Sample Summary

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0396							
MW-2	002-0396		202-0396			03/28/96	1410 hours	
MW-3	003-0396					03/28/96	0945 hours	Blank sample collected @1600 hours.
MW-4	NO SAMPLE					03/28/96	1030 hours	
						NA	NA	Well damaged. TD=22ft., but bailer TD=16.9 ft.
MW-5	005-0396			005-0396	*005-MYR-QA-0396	03/28/96	1130 hours	Well unable to be sampled.
MW-6	006-0396	106-0396						
MW-7	NO SAMPLE					03/28/96	1445 hours	
						NA	NA	Well damaged and unable to be sampled.

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

All other samples shipped through Thermo Analytical,
300 Second Ave., Waltham, MA to:

Mr. Brad Ayars
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605
phone (717) 656-2300

Table 2

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 28 March 1996
Final Field Measurements

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	3/28/96	9.2	7.22	9.8	1.31
MW-2	3/28/96	8.5	7.16	7.9	NR
MW-3	3/28/96	2.35	6.82	6.6	1.67
MW-4**	NA	NA	NA	NA	NA
MW-5	3/28/96	6.65	7.66	9.1	NR
MW-6	3/28/96	11.2	7.1	9.2	0.97
MW-7**	NA	NA	NA	NA	NA

*Depth of water measured from top of well casing.

**Wells MW-4 and MW-7 are scheduled to be replaced by wells MW-8 and MW-9, respectively, in 1996.

NA = Not Applicable (well damaged, well not sampled).

NR = No Reading (measurement beyond detection slope of instrument).

Table 3
New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 28 March 1996
Analytical Results

Well ID	Sample Date	PCBs (ppb)		Cadmium (ppm)		Chromium (ppm)		Copper (ppm)		Lead (ppm)	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-1	03/11/92	0.082	<0.053	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	0.016	<0.0050
	12/12/95	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0047	<0.0017
	03/28/96	0.18 J	ND*	<0.0026	<0.0026	<0.0073	<0.0073	0.0076 J	<0.0042	0.01	<0.0017
MW-2	03/11/92	0.41	<0.051	<0.0091	<0.0091	0.018 J	<0.012	0.048	<0.025	0.013	<0.0050
	12/12/95	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0022 J	<0.0085
	03/28/96	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	<0.0017	<0.0017
MW-3	03/11/92	I	<0.015	<0.0091	<0.0091	0.043	<0.012	0.084	<0.025	0.028	<0.0050
	12/12/95	ND*	ND*	0.027	0.025	<0.0073	<0.0073	0.257	0.108	0.0038	<0.0017
	03/28/96	ND*	ND*	0.036	0.022	<0.0073	<0.0073	0.289	0.045	0.0017 J	<0.0017
MW-4											
MW-5	03/11/92	<0.056	<0.056	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	<0.0050	<0.0050
	12/12/95	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	0.0077 J	<0.0042	<0.017	<0.0085
	03/28/96	ND*	ND*	<0.0026	<0.0026	0.046	<0.0073	0.0186 J	<0.0042	<0.0017	<0.0017
MW-6	03/11/92	<0.052	<0.052	<0.0091	<0.0091	<0.012	<0.012	<0.025	<0.025	0.022	<0.0050
	12/12/96	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.003	<0.0017
	03/28/96	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0039	<0.0017
MW-6	12/12/95	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0028 J	<0.0017
DUP	03/25/96	ND*	ND*	<0.0026	<0.0026	<0.0073	<0.0073	<0.0042	<0.0042	0.0034	<0.0017
MW-7	03/11/92	<0.052	<0.052	<0.0091	<0.0091	0.015 J	<0.012	0.027 J	<0.025	0.0085	<0.0050

ND = Not Detected.

*PCBs were not detected in the sample. The detection limits vary but range from:

PCB-1016 = 0.070-0.090 ppb.

PCB-1221 = 0.100-0.170 ppb.

PCB-1232 = 0.080-0.098 ppb.

PCB-1242 = 0.040-0.049 ppb.

PCB-1248 = 0.050-0.068 ppb.

PCB-1254 = 0.050-0.062 ppb.

PCB-1260 = 0.060-0.073 ppb.

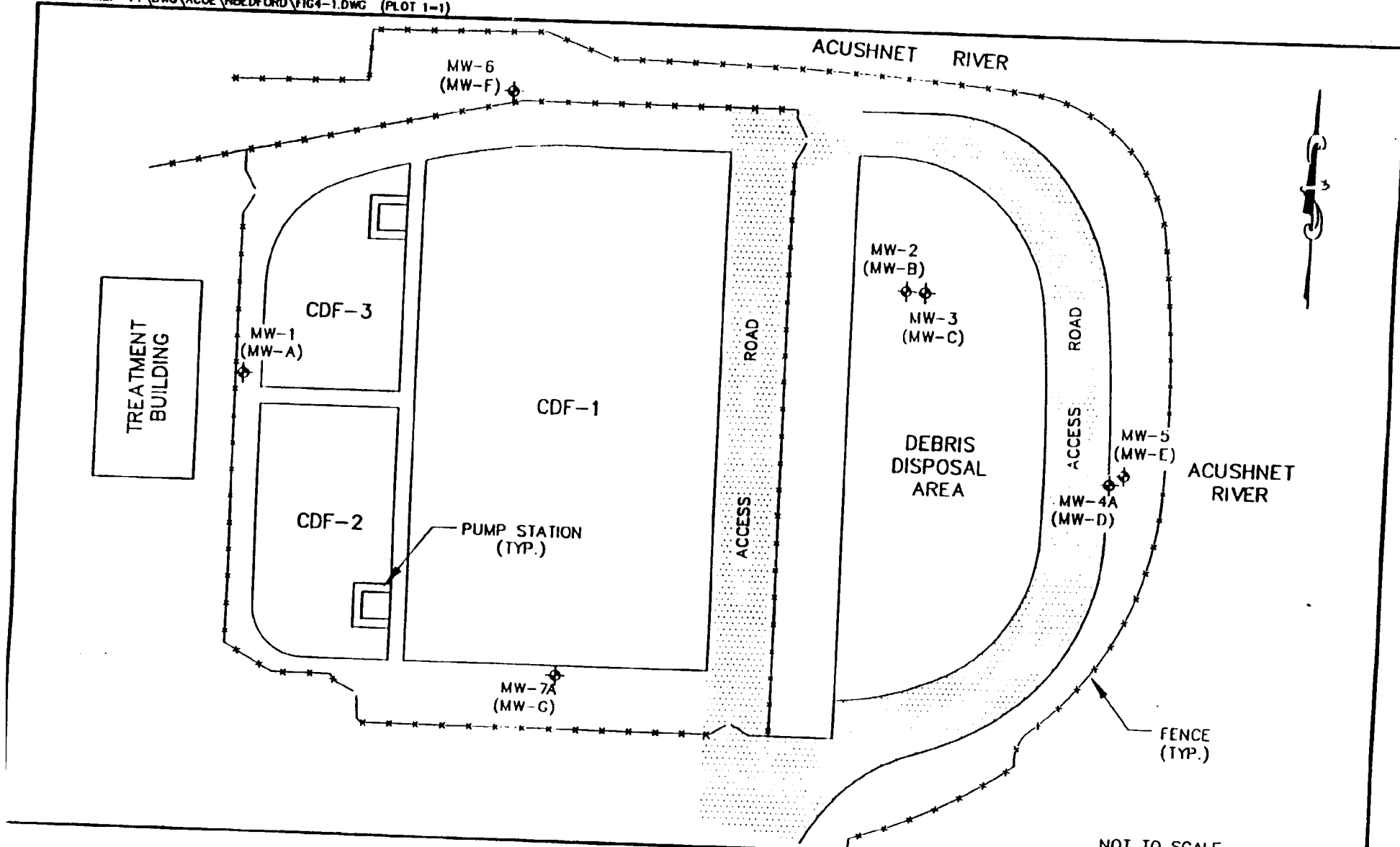
Well MW-4 is scheduled to be replaced by well MW-8 in 1996.

Well MW-7 is scheduled to be replaced by well MW-9 in 1996. MW-7 was previously sampled in March 1992.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

June 1996

FILE NAME: P:\DWG\ACOE\NBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN
 NEW BEDFORD HARBOR SUPERFUND SITE
 NEW BEDFORD, MASSACHUSETTS

ROY F. WESTON, INC. WESTON MANAGERS DESIGNERS/CONSULTANTS			
DRAWN K.J.C.	DATE MAY 96	DES. ENG.	DATE
CHECKED	DATE	W. O. NO. 03886-118-002	DATE

Table 1

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 27 June 1996
Sample Summary

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0696							
MW-2	002-0696		202-0696			06/27/96	1340 hours	
MW-3	003-0696					06/27/96	1205 hours	Blank sample (202-0696) collected @1440 hours.
MW-4A	004-0696					06/27/96	1230 hours	
MW-5	005-0696				*004-0696-Q	06/27/96	0945 hours	
MW-6	006-0696	106-0696		005-0696		06/27/96	1030 hours	
MW-7A	007-0696					06/27/96	1255 hours	Field duplicate sample (106-0696) collected @1315 hours
						06/27/96	1400 hours	

Note: The sample bottle for the PCB totals analyses for sample 002-0696 broke during transport. The sample was recollected 01 July 1996 at 1430 hours. Samples for PCB total and dissolved analyses were collected for blank sample 202-0696. Samples for total and dissolved metals analyses were not collected as insufficient bottles were provided.

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

All other samples shipped through Thermo Analytical,
300 Second Ave., Waltham, MA to:

Mr. Brad Ayars
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605
phone (717) 656-2300

Table 2

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 27 June 1996
Final Field Measurements

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	6/27/96	11.32	7.1	14.0	1.60
MW-2	6/27/96	8.64	7.0	13.5	4.65
MW-3	6/27/96	8.33	6.9	16.0	4.10
MW-4A	6/27/96	9.06	7.3	12.5	7.00
MW-5	6/27/96	7.92	7.9	13.0	1.90
MW-6	6/27/96	11.70	7.1	13.5	0.55
MW-7A	6/27/96	11.04	7.3	15.0	0.85

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 27 June 1996:

High Tide: 0604 hours and 1831 hours.

Low Tide: 1127 hours.

Table 3

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 27 June 1996
Analytical Results**

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-6 Duplicate	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	ND	112.0	ND	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	95.0	ND	ND	ND	ND	ND
	Dissolved	100.0	100.0	ND	4.6	ND	13.5	9.2	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	ND	ND	ND	ND	ND	15.3
	Dissolved	1,300.0	NA	ND	ND	113.0	9.5	3.9	ND	ND	ND
Lead	Total	15.0	15.0	ND	ND	195.0	ND	ND	ND	ND	14.2
	Dissolved	15.0	15.0	ND	ND	1.2	ND	6.2	ND	ND	ND
				ND	ND	ND	ND	ND	ND	ND	ND

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 Standard.

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.
Results reported in micrograms per liter ($\mu\text{g/L}$ = parts per billion).

NA = Not Applicable.

ND = Not Detected.

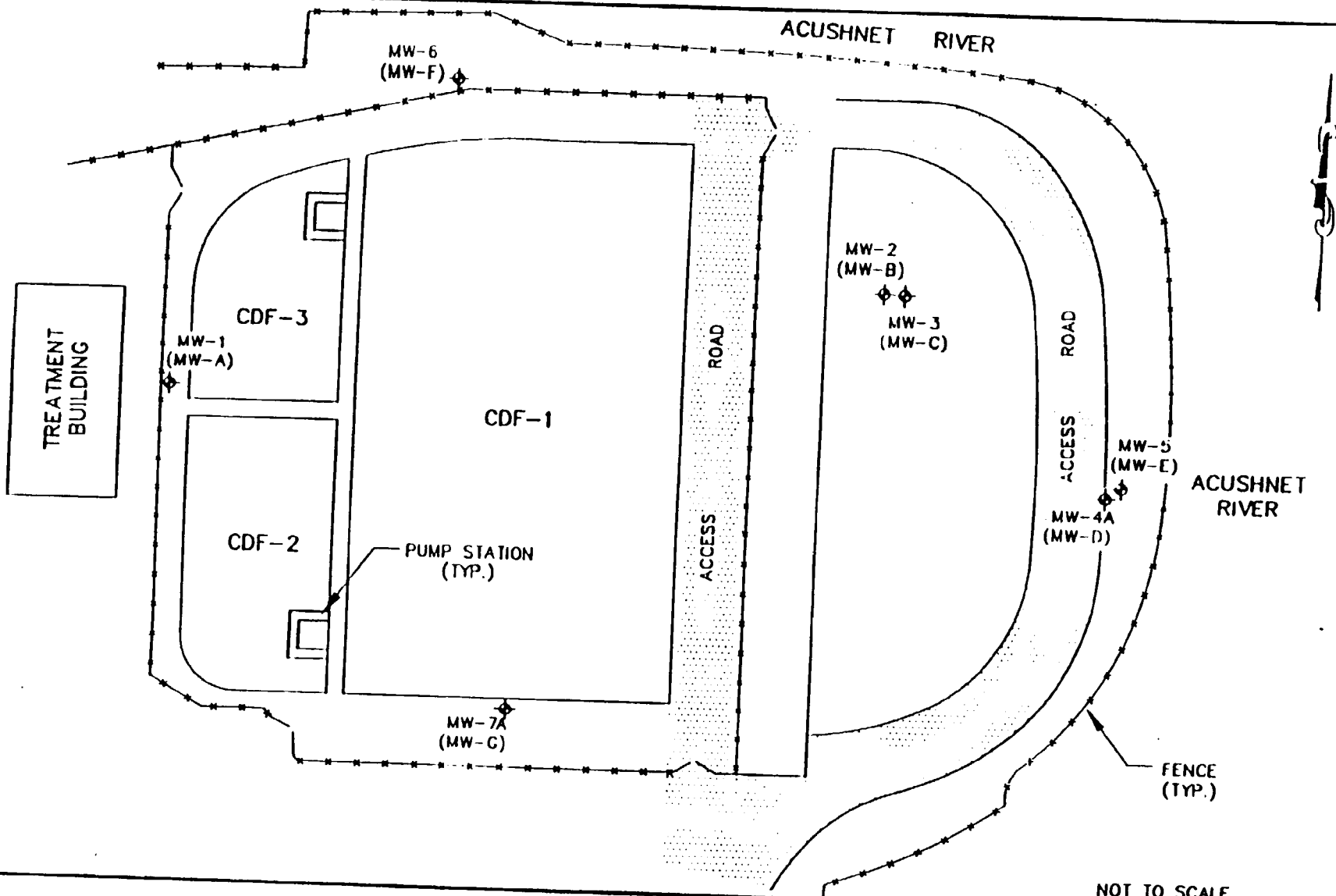
US EPA MCL = US EPA Maximum Contaminant Level standard for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (Massachusetts Department of Environmental Protection) GW-1 standard for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

September 1996

FILE NAME: P:\DWG\ACOE\NEWBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

ROY F. WESTON, INC.



DRAWN

K.J.C.

DATE

MAY 96

DES. ENG.

DATE

W. O. NO.

03886-11A-002

Table 1

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 25 September 1996
Sample Summary

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0996							
MW-2	002-0996		202-0996			09/25/96	1400 hours	
MW-3	003-0996					09/25/96	1150 hours	Blank sample (202-0696) collected @1500 hours.
MW-4A	004-0996					09/25/96	1215 hours	
MW-5	005-0996			004-0996		09/25/96	1045 hours	
MW-6	006-0996	106-0996			*005-0996-QA	09/25/96	1020 hours	
MW-7A	007-0996					09/25/96	1250 hours	Field duplicate sample (106-0696) collected @1310 hours
						09/25/96	1450 hours	

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

All other samples shipped through Thermo Analytical,
300 Second Ave., Waltham, MA to:

Mr. Brad Ayars
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605
phone (717) 656-2300

Table 2

New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 25 September 1996
Final Field Measurements

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	9/25/96	13.96	6.85	14.5	0.95
MW-2	9/25/96	7.24	6.95	17.5	4.55
MW-3	9/25/96	2.15	6.95	18.0	3.50
MW-4A	9/25/96	6.02	6.95	13.0	8.00
MW-5	9/25/96	5.05	7.60	14.2	1.70
MW-6	9/25/96	12.65	7.10	17.0	0.50
MW-7A	9/25/96	9.88	6.85	16.0	0.75

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 25 September 1996:

High Tide: 0651 and 1916 hours.

Low Tide: 0027 and 1252 hours.

Table 3
New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 25 September 1996
Analytical Results

Compounds Detected		Groundwater Sampling Locations								
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-6 Duplicate MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	0.19 J	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	25.0	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	ND	24.0	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	ND	ND	ND	ND	ND
	Dissolved	100.0	100.0	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	156.0	ND	ND	ND	18.0 J
	Dissolved	1,300.0	NA	27.0	19.2 J	88.0	ND	ND	ND	ND
Lead	Total	15.0	15.0	11.2 J	ND	ND	ND J	ND	ND	ND
	Dissolved	15.0	15.0	ND	11.3 J	16.0 J	ND J	8.0 J	3.3 J	ND J
									ND	1.5 J
										ND

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.
 Results reported in micrograms per liter ($\mu\text{g/L}$ = parts per billion).

NA = Not Applicable.

ND = Not Detected.

J = Estimated value.

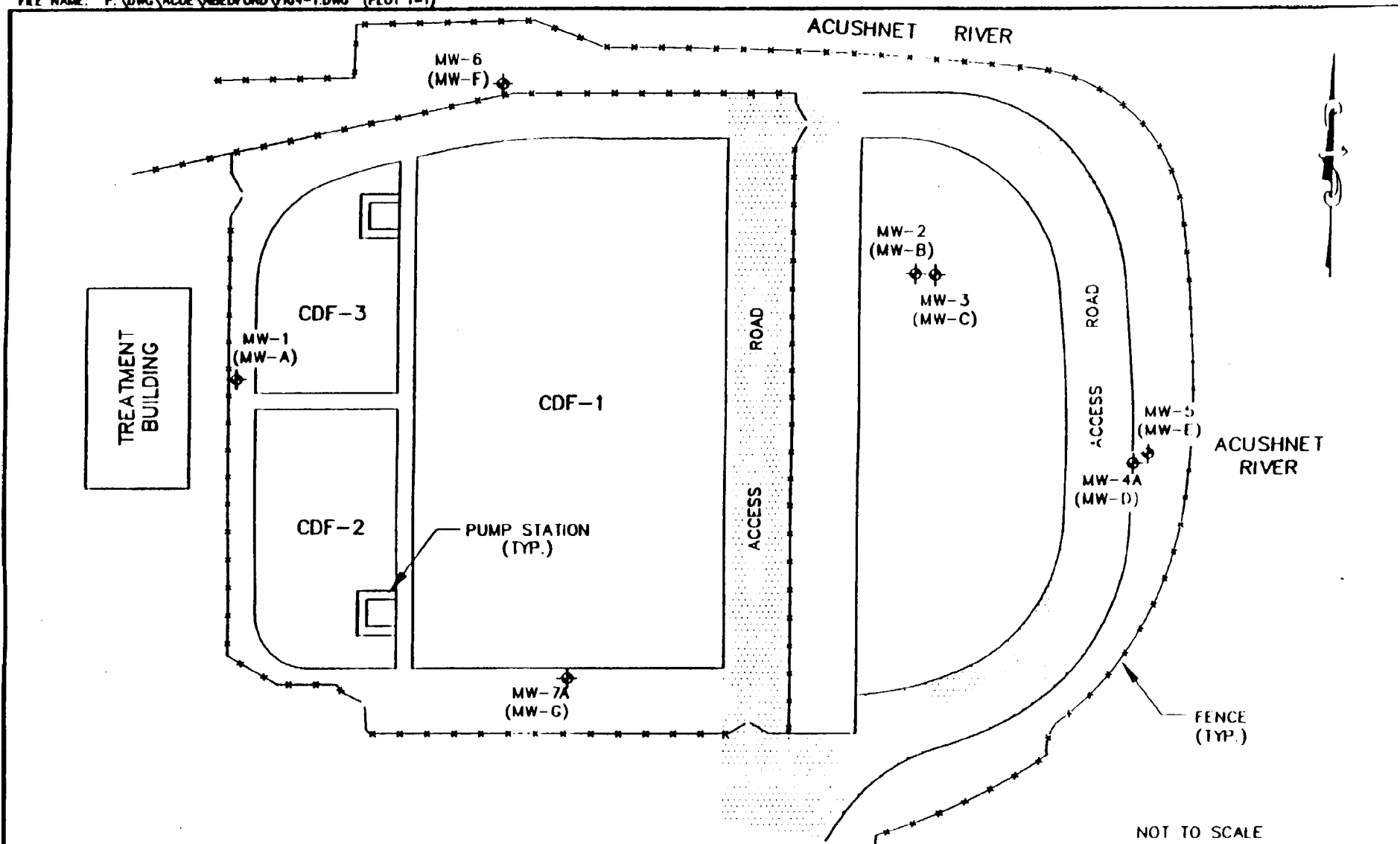
U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

December 1996

FILE NAME: P:\DWG\ACOE\NEWBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS



DRAWN	DATE	DES. ENG	DATE	W. O. NO
K.J.C.	MAY 96			03886-118 002
CHECKED		APPROVED		DWG NO

Table 1

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 19 and 20 December 1996
Sample Summary**

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-1296	101-1296				12/19/96	1030 hours	Field duplicate sample (101-1296) collected @1100 hours
MW-2	002-1296		202-1296			12/19/96	1400 hours	Blank sample (202-1296) collected @1200 hours.
MW-3	003-1296					12/19/96	1430 hours	
MW-4A	004-1296			004-1296		12/20/96	0930 hours	
MW-5	005-1296				*005-1296-QA	12/20/96	1400 hours	
MW-6	006-1296					12/19/96	1130 hours	
MW-7A	007-1296					12/19/96	0935 hours	

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

All other samples shipped through Thermo Analytical,
300 Second Ave., Waltham, MA to:
Mr. Brad Ayars
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605
phone (717) 656-2300

Table 2

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 19 and 20 December 1996
Final Field Measurements**

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	12/19/96	14.20	7.00	14.0	0.92
MW-2	12/19/96	8.20	7.10	11.5	3.45
MW-3	12/19/96	3.30	7.00	9.5	2.05
MW-4A	12/20/96	5.45	7.20	10.2	9.00
MW-5	12/20/96	4.65	7.30	10.5	1.55
MW-6	12/19/96	12.60	7.10	13.0	0.50
MW-7A	12/19/96	9.90	7.30	12.9	0.90

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 19 December 1996:

High Tide: 0301 and 1527 hours.

Low Tide: 0927 and 2129 hours.

Tide Schedule for New Bedford on 20 December 1996:

High Tide: 0359 and 1623 hours.

Low Tide: 1036 and 2228 hours.

Table 3

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 19 and 20 December 1996
Analytical Results**

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-1 Duplicate	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	0.1 J	ND	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	5.4 J	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	ND	ND	4.3 J	ND	ND	ND	ND
Chromium	Total	100.0	100.0	7.4 J	ND	ND	ND	ND	ND	ND	7.9 J
	Dissolved	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	ND	52.0	ND	ND	ND	ND
	Dissolved	1,300.0	NA	ND J	9.0 J	ND	23.0 J	ND	ND	ND	ND
Lead	Total	15.0	15.0	4.9 J	2.2 J	ND J	ND J	1.2 J	ND J	ND J	3.4 J
	Dissolved	15.0	15.0	ND J	ND J	8.4 J	6.2 J	9.3 J	ND J	ND J	ND J

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.

Results reported in micrograms per liter (µg/L = parts per billion).

NA = Not Applicable.

ND = Not Detected.

J = Estimated value.

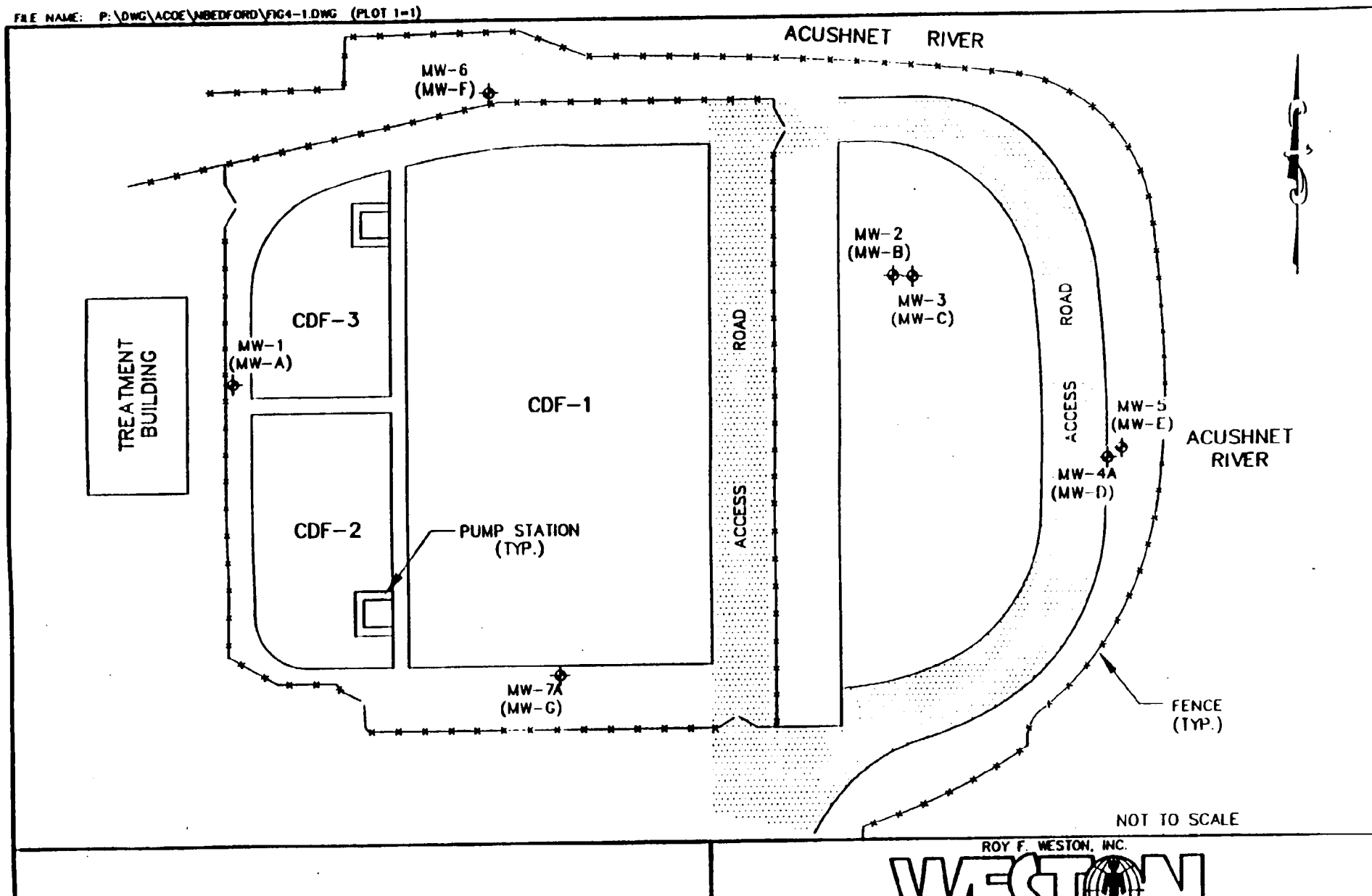
U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

March 1997

FILE NAME: P:\DWG\ACOE\NEWBEDFORD\FIG4-1.DWG (PLOT 1-1)



SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS



DRAWN K.J.C.	DATE MAY 96	DES. ENG.	DATE	W. O. NO 03886-118 001
CHECKED		APPROVED		DWG NO

Table 1

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 March 1997
Sample Summary**

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0397	101-0397				03/26/97	1208 hours	Field duplicate sample (101-0397) collected @ 1208 hours
MW-2	002-0397		202-0397			3/27/97	0930 hours	Blank sample (202-0397) collected @ 1550 hours.
MW-3	003-0397					3/27/97	1125 hours	
MW-4A	004-0397			004-0397		3/26/97	1330 hours	
MW-5	005-0397				*005-0397-QA	3/26/97	1340 hours	
MW-6	006-0397					3/26/97	1130 hours	
MW-7A	007-0397					3/26/97	1130 hours	

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

All other samples shipped through Thermo Analytical,
300 Second Ave., Waltham, MA to:

Mr. Brad Ayars
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605
phone (717) 656-2300

Table 2

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 March 1997
Final Field Measurements**

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	3/26/97	15.70	8.10	10.0	0.80
MW-2	3/27/97	8.94	7.30	8.5	2.60
MW-3	3/27/97	4.04	8.20	7.5	1.70
MW-4A	3/26/97	6.60	7.20	10.5	9.50
MW-5	3/26/97	5.50	8.20	9.0	1.40
MW-6	3/26/97	13.00	8.00	9.0	0.40
MW-7A	3/26/97	10.80	6.30	9.5	0.80

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 26 March 1997:

High Tide: 0917 and 2131 hours.

Low Tide: 0306 and 1522 hours.

Tide Schedule for New Bedford on 27 March 1997:

High Tide: 0956 and 2206 hours.

Low Tide: 0446 and 1601 hours.

Table 3
New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 March 1997
Analytical Results

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-1 Duplicate	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	ND	0.109J	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	7.3J	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	3.4J	ND	4.5J	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	ND	ND	ND	13.0J	ND	9.9J
	Dissolved	100.0	100.0	4.8J	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	4.2J	5.1J	ND	61.0	ND	5.1J	ND	8.7J
	Dissolved	1,300.0	NA	ND	ND	ND	38.0	ND	ND	ND	ND
Lead	Total	15.0	15.0	15.5	17.3	ND	1.4J	6.8	2.9J	2.0	6.0J
	Dissolved	15.0	15.0	4.8	5.1	ND	ND	1.6J	6.6	1.7J	ND

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.
Results reported in micrograms per liter ($\mu\text{g/L}$ = parts per billion).

NA = Not Applicable.

ND = Not Detected.

J = Estimated value.

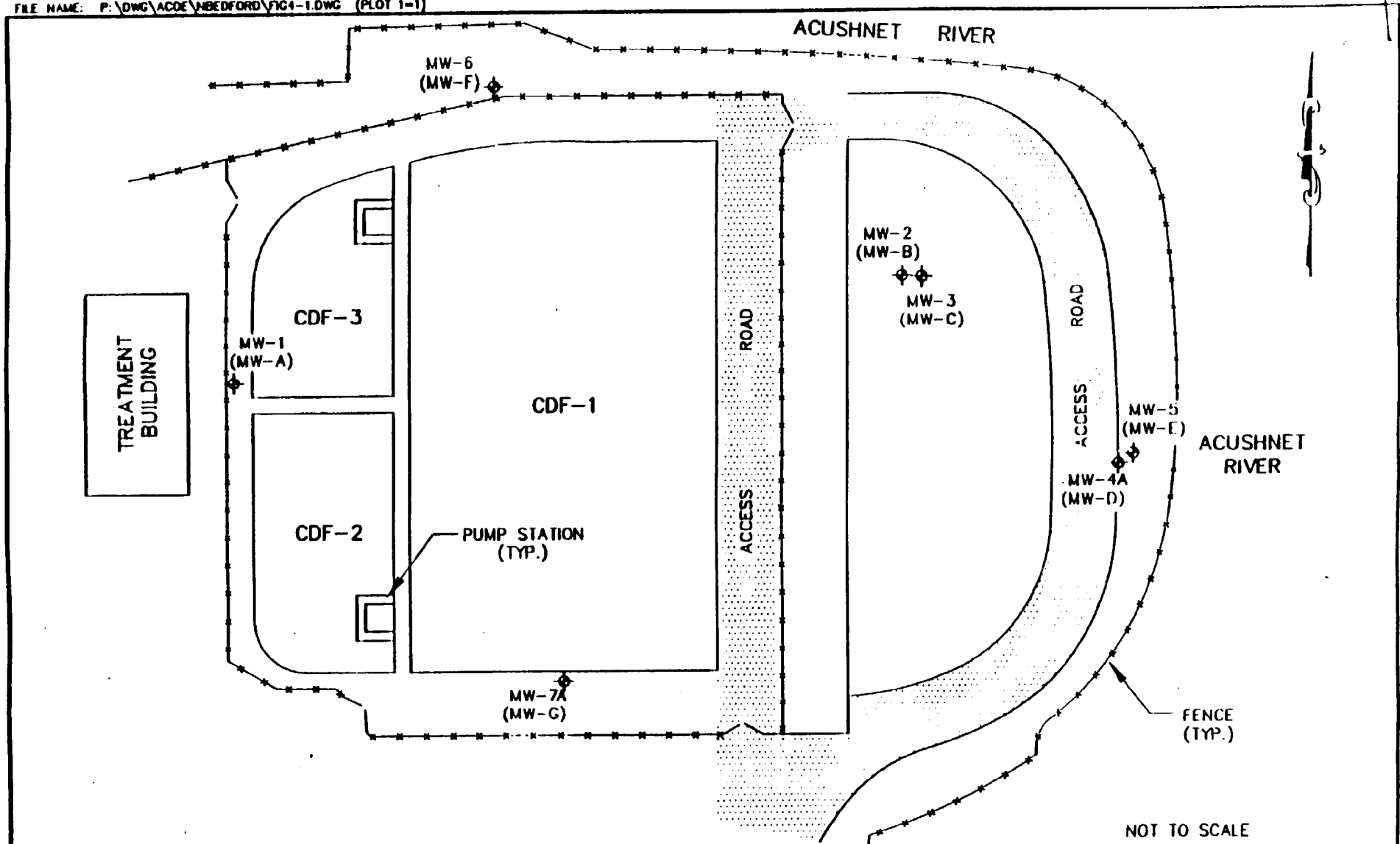
U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

June 1997

FILE NAME: P:\DWG\ACOE\NBEDFORD\FIG1-1.DWG (PLOT 1-1)



SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS



DRAWN K.J.C.	DATE MAY 96	DES. ENG.	DATE	W. O. NO. 03886-118-002
CHECKED		APPROVED		DWG NO

Table 1

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 June 1997
Sample Summary**

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0697	101-0697				6/26/97	1300 hours	Field duplicate sample (101-0697) collected @1208 hours
MW-2	002-0697		202-0697			6/27/97	1115 hours	Blank sample (202-0697) collected @ 1200 hours.
MW-3	003-0697					6/27/97	1110 hours	
MW-4A	004-0697			004-0697		6/26/97	1500 hours	
MW-5	005-0697				*005-0697-QA	6/26/97	1500 hours	
MW-6	006-0697					6/26/97	1210 hours	
MW-7A	007-0697					6/26/97	1125 hours	

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

Table 2

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 June 1997
Final Field Measurements**

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	6/26/97	16.50	7.60	19.0	0.80
MW-2	6/27/97	9.70	7.60	15.0	2.80
MW-3	6/27/97	8.00	7.10	19.0	2.00
MW-4A	6/26/97	7.50	7.00	18.0	10.00
MW-5	6/26/97	6.40	8.00	15.0	2.75
MW-6	6/26/97	13.06	7.70	15.0	0.40
MW-7A	6/26/97	11.20	7.80	18.5	7.50

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 26 June 1997:

High Tide: 0405 and 16.44 hours.

Low Tide: 1025 and 2252 hours.

Tide Schedule for New Bedford on 27 June 1997:

High Tide: 0504 and 1752 hours.

Low Tide: 1121 and 2353 hours.

Table 3
New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 26 and 27 June 1997
Analytical Results

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-1 Duplicate	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	4.2J	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	ND	ND	4.2J	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	12.6J
	Dissolved	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	ND	82.0	ND	ND	ND	8.8J
	Dissolved	1,300.0	NA	ND	ND	ND	36.0	ND	ND	ND	ND
Lead	Total	15.0	15.0	7.7*	8.2*	ND	4.7*	ND	ND	2.2J	7.8*
	Dissolved	15.0	15.0	3.7*	6.1*	15*	16*	10.6J	11.1	1.3J	3.1*

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.
Results reported in micrograms per liter ($\mu\text{g/L}$ = parts per billion).

NA = Not Applicable.

ND = Not Detected.

J = Estimated value.

* = Matrix Spike/Matrix Spike Duplicate results did not meet quality control criteria for contaminant of concern. Result should be estimated and biased as high.

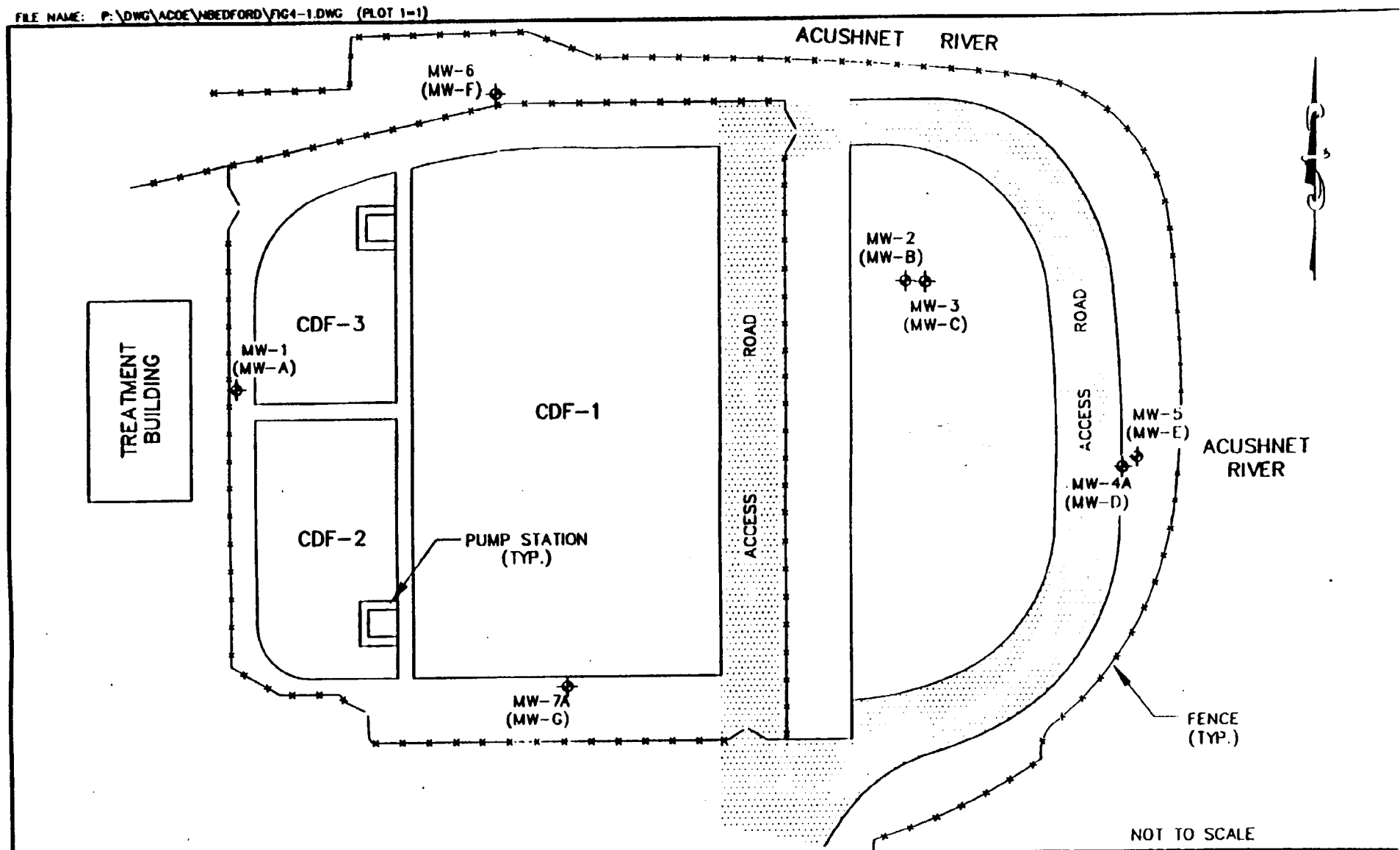
U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

September 1997

FILE NAME: P:\DWG\ACOE\HBFORD\FIG4-1.DWG (PLOT 1-1)



SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS



DRAWN K.J.C.	DATE MAY 96	DES. ENG.	DATE	W. O. NO. 03886-118-002
CHECKED		APPROVD		DWC NO

Table 1

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 24 and 25 September 1997
Sample Summary**

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-0997	101-0997				9/24/97	1150 hours	Field duplicate sample (101-0997) collected @1150 hours
MW-2	002-0997		202-0997			9/24/97	1440 hours	Blank sample (202-0997) collected @ 0845 on 9/25/97
MW-3	003-0997					9/25/97	1140 hours	
MW-4A	004-0997			004-0997		9/25/97	1055 hours	
MW-5	005-0997				1005-0997-QA	9/24/97	1405 hours	
MW-6	006-0997					9/24/97	1043 hours	
MW-7A	007-0997					9/24/97	0950 hours	

*QA Lab sample shipped to:

Mr. Dave Lubianez
ACOE New England Division Environmental Lab
476 Coldbrook Road
Hubbardston, MA 01452
phone (508) 928-4238
NB Harbor Project No. E0562

Table 2

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 24 and 25 September 1997
Final Field Measurements**

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	9/24/97	16.90	7.00	13.0	0.60
MW-2	9/24/97	10.39	7.00	16.0	5.00
MW-3	9/25/97	10.08	7.20	17.5	5.00
MW-4A	9/25/97	10.62	7.00	15.0	7.00
MW-5	9/24/97	9.30	7.70	17.0	3.00
MW-6	9/24/97	13.98	7.00	15.0	0.43
MW-7A	9/24/97	11.70	6.70	15.0	0.80

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 24 September 1997:

High Tide: 0245 and 1504 hours.

Low Tide: 0835 and 2042 hours.

Tide Schedule for New Bedford on 25 September 1997:

High Tide: 0349 and 1612 hours.

Low Tide: 0928 and 2145 hours.

Table 3

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 24 and 25 September 1997
Analytical Results**

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-1 Duplicate	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	0.5	0.5	0.141J*	ND	ND	ND	ND	ND	0.304J*	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	18.0	ND	ND	ND	ND
	Dissolved	5.0	5.0	ND	ND	ND	19.0	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	7.3J
	Dissolved	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	ND	167.0	4.8J	ND	ND	ND
	Dissolved	1,300.0	NA	ND	ND	ND	138.0	ND	ND	ND	ND
Lead	Total	15.0	15.0	5.6	4.8	1.7J	2.4	2.4J	2.3J	1.9J	2.3J
	Dissolved	15.0	15.0	3.5	2.7	1.8J	ND	ND	3.1	2.2J	1.4J

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.
Results reported in micrograms per liter (µg/L = parts per billion).

NA = Not Applicable.

ND = Not Detected.

J = The associated numerical value is an estimated value.

UJ = The compound was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity

U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

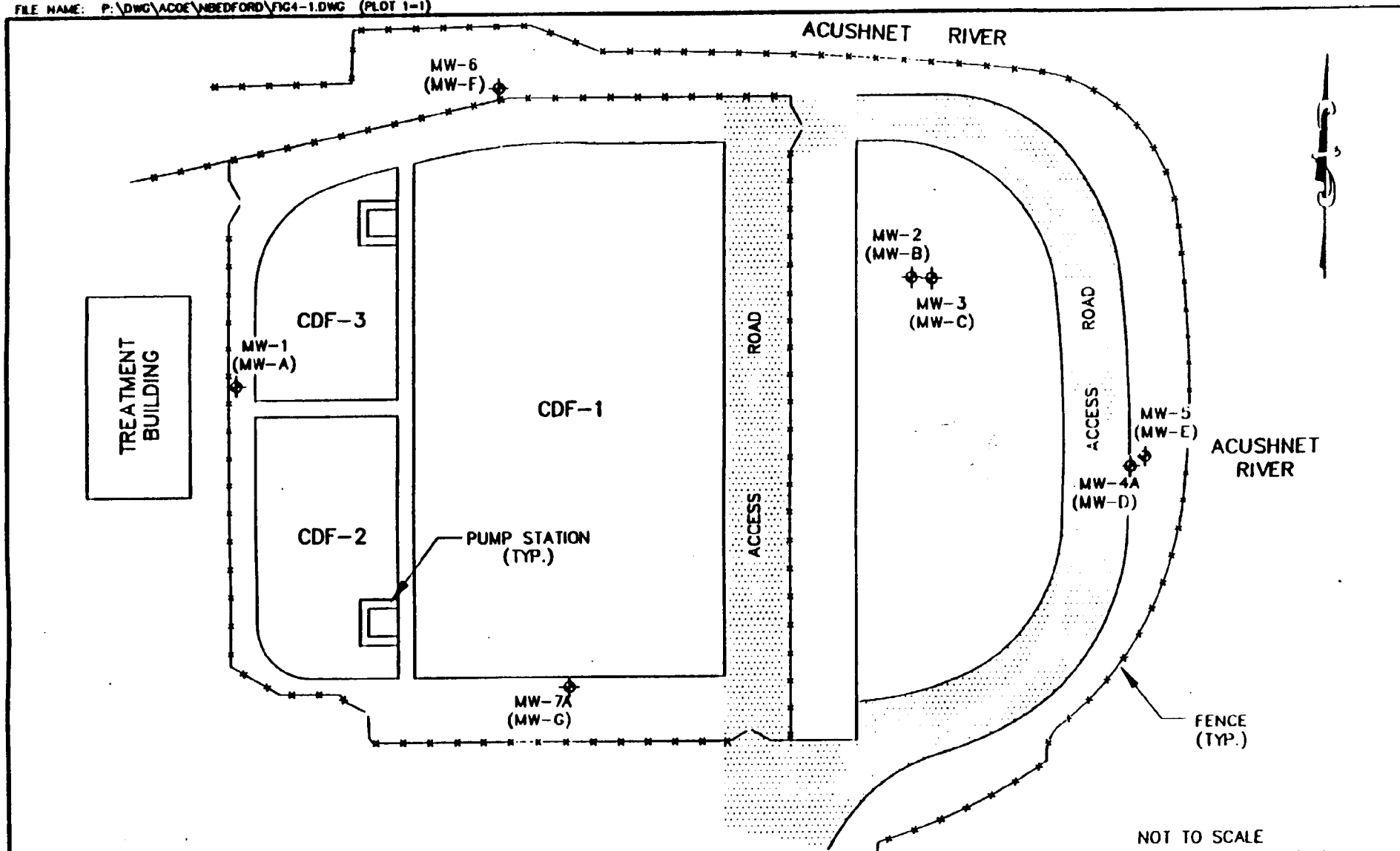
* PCB concentrations were detected in filtered samples but not in the unfiltered samples. Both results for total and dissolved should be estimated.

** PCB 1260 was detected in filtered sample 001-0997 but not in field duplicate filtered sample 101-0997. The non-detected result for 1260 should be estimated UJ

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**

December 1997

FILE NAME: P:\DWG\ACOE\NBEDFORD\FIG4-1.DWG (PLOT 1-1)



NOT TO SCALE

SITE PLAN

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

ROY F. WESTON, INC.



DRAWN K.J.C.	DATE MAY 96	DES. ENG.	DATE	W. O. NO. 03886-118-002
CHECKED		APPROVD		DWG NO

Table 1

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 29 and 30 December 1997
Sample Summary**

SAMPLE LOCATION	SAMPLE ID	QC/FIELD DUP SAMPLE ID	RINSATE BLANK ID	MS/MSD SAMPLE ID	*QA LAB SAMPLE ID	SAMPLE DATE	SAMPLE TIME	COMMENTS
MW-1	001-1297	101-1297				12/29/97	1120 hours	Field duplicate sample (101-1297) collected @1120 hours
MW-2	002-1297		202-1297			12/29/97	1450 hours	Blank sample (202-1297) collected @ 1540 on 12/29/97
MW-3	003-1297					12/30/97	0800 hours	
MW-4A	004-1297			004-1297		12/29/97	1400 hours	
MW-5	005-1297				*005-1297-QA	12/29/97	1350 hours	
MW-6	006-1297					12/29/97	1045 hours	
MW-7A	007-1297					12/29/97	1000 hours	

*QA Lab sample shipped to:

Sample Administration
Lancaster Laboratories
2425 New Holland Turnpike
Lancaster, PA
phone (717) 656-2300

Table 2

**New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 29 and 30 December 1997
Final Field Measurements**

Well ID	Sample Date	Depth of Water (ft)*	pH	Temperature (°C)	Specific Conductivity (mmhos/cm)
MW-1	12/29/97	15.22	7.30	11.0	0.90
MW-2	12/29/97	8.96	7.30	11.0	5.50
MW-3	12/30/97	6.86	8.00	8.0	1.70
MW-4A	12/29/97	7.60	8.00	12.0	3.50
MW-5	12/29/97	6.48	8.00	11.0	2.20
MW-6	12/29/97	12.04	7.60	11.0	0.50
MW-7A	12/29/97	9.90	7.10	10.0	0.80

*Depth of water measured from top of inner Teflon well casing.

Tide Schedule for New Bedford on 29 December 1997:

High Tide: 0709 and 1945 hours.

Low Tide: 0058 and 1333 hours.

Tide Schedule for New Bedford on 30 December 1997:

High Tide: 0752 and 2030 hours.

Low Tide: 0147 and 1417 hours.

Table 3
New Bedford Harbor Sawyer Street Site
Quarterly Groundwater Sampling - 29 and 30 December 1997
Analytical Results

Compounds Detected		Groundwater Sampling Locations									
		US EPA MCL	MCP GW-1 Standard	MW-1	MW-1 Duplicate	MW-2	MW-3	MW-4A	MW-5	MW-6	MW-7A
PCBs	Total	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Total	5.0	5.0	ND	ND	ND	9.3J	ND	ND	ND	ND
	Dissolved	5.0	5.0	3.1J	ND	ND	9.5J	ND	ND	ND	ND
Chromium	Total	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND
	Dissolved	100.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Total	1,300.0	NA	ND	ND	ND	123.0	ND	ND	ND	ND
	Dissolved	1,300.0	NA	ND	ND	ND	88.0	ND	ND	ND	ND
Lead	Total	15.0	15.0	2.9J	4.5	ND	3.6	ND	ND	ND	3.0J
	Dissolved	15.0	15.0	3.5	1.3J	ND	ND	ND	ND	ND	ND

Note: Shaded areas indicate results exceeding US EPA MCL or MCP GW-1 standards for groundwater.

Results reported in micrograms per liter (µg/L = parts per billion).

ND = Not Detected.

J = The associated numerical value is an estimated value.

U.S. EPA MCL = US EPA Maximum Contaminant Level standards for groundwater.

MCP GW-1 Standard = Massachusetts Contingency Plan (per Massachusetts Department of Environmental Protection) GW-1 standards for groundwater.

**LABORATORY ANALYTICAL PACKAGES
FOR THIS SAMPLING EVENT ARE AVAILABLE
AT EPA'S SITE FILE LOCATED IN BOSTON, MA**